surrounding Coastal Plain was submerged, and the geologic strata exposed on it represent older beds that elsewhere within the region are buried by younger sediments.

Towards the coast, the absence of the embayed estuaries and extensive sounds that dominate the coast farther north may be a result of uplifting of the Cape Fear Arch. Uplifting may also account for the preservation of the relict beach ridge systems, which are more extensive in this area than elsewhere along the coast, particularly in southern mainland Brunswick County and along both sides of the lower Cape Fear estuary. Collectively these ridges support the largest and best-developed Coastal Fringe Sandhill communities found anywhere within the state.

In addition to the relict beach dunes found near the coast, and active dunes present on the barrier islands, well-drained sandhills occur throughout the area of the Cape Fear Arch. Within the state, the region of the Cape Fear Arch is second, in fact, only to the Fall-line Sandhills in the abundance of sandhill habitats it possesses. Some of these sandhills occur in the form of long ridges that run along the northern or eastern sides of the Cape Fear, Northeast Cape Fear, Black, and Lumber Rivers. These ridges are believed to have originated in the Pleistocene when strong prevailing winds swept sands out of the exposed river beds (Markewich and Markewich, 1994). Other sandhills exist as crescent-shaped rims bordering the enigmatic oval depressions known as Carolina bays, which reach their largest concentration in the study area. These bay rims, along with the bays themselves, have also been hypothesized to have an Ice Age, aeolian origin.

On flatter topography, the coarse, sandy soils that prevail over this area, along with the sandier loams that occur along its margins, contribute to the formation of Pine Savanna and Wet Pine Flatwoods habitats; in North Carolina these habitats attain their greatest and best development in the region of the Cape Fear Arch. Particularly noteworthy are the large tracts of these habitats found in Brunswick and Pender Counties.

Less conspicuous topographically than the sand ridges, but associated with some of the most unique habitats within the state, are limestone (marl) beds that are located relatively close to the surface at several sites within the Cape Fear Arch[3]. At Lake Waccamaw, bluffs composed of marl contribute to the high pH of the lake's waters and are at least partly responsible for the rich molluscan fauna found there. Marl also contributes to the unique soil chemistry associated with some of the rarest natural community types found in the state: Coastal Plain Marl Outcrop, Wet Marl Forest, and the Very Wet Clay Variant of Pine Savanna. Limesink depressions, formed by solution cavities in marl beneath sand, support still other types of communities, such as Small Depression Pond and Small Depression Pocosin, that have many of their best examples in North Carolina within the Cape Fear Arch.

Although this area is not dominated by wetland habitats to the same extent as the section of the North Carolina Coastal Plain north of the Pamlico Sound, large peat domes exist at the Green

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[3] Limestone beds occur throughout the Coastal Plain but are more deeply buried in areas outside of the Cape Fear Arch.